RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/550,675
Source: IFW
Date Processed by STIC: 3/13/07

ENTERED

IFWP

RAW SEQUENCE LISTING DATE: 03/13/2007
PATENT APPLICATION: **US/10/550,675** TIME: 08:37:45

Input Set : **F:\EPI-104XC1.ST25.txt**
Output Set: **N:\CRF4\03132007\J550675.raw**

```
      3 <110> APPLICANT: Epimmune Inc.
      4       Tangri, Shabnam
      5       Mothe, Bianca
      6       Sette, Alessandro
      7       Southwood, Scott
      8       Briggs, Kristen
      9       Chestnut, Robert W.
     11 <120> TITLE OF INVENTION: Peptides, Polypeptides, and Proteins of Reduced
Immunogenicity
     12       and Methods for Their Production
     14 <130> FILE REFERENCE: EPI-104XC1
C--> 16 <140> CURRENT APPLICATION NUMBER: US/10/550,675
C--> 17 <141> CURRENT FILING DATE: 2005-09-26
     19 <150> PRIOR APPLICATION NUMBER: US 60/459,939
     20 <151> PRIOR FILING DATE: 2003-04-02
     22 <160> NUMBER OF SEQ ID NOS: 247
     24 <170> SOFTWARE: PatentIn version 3.2
     26 <210> SEQ ID NO: 1
     27 <211> LENGTH: 9
     28 <212> TYPE: PRT
     29 <213> ORGANISM: Artificial Sequence
     31 <220> FEATURE:
     32 <223> OTHER INFORMATION: Synthetic sequence derived from erythropoietin
     35 <220> FEATURE:
     36 <221> NAME/KEY: MISC_FEATURE
     37 <223> OTHER INFORMATION: Synthetic sequence derived from erythropoietin
     39 <220> FEATURE:
     40 <221> NAME/KEY: MISC_FEATURE
     41 <222> LOCATION: (1)..(1)
     42 <223> OTHER INFORMATION: X = phe, met ,tyr, leu, ile, val, or trp
     44 <220> FEATURE:
     45 <221> NAME/KEY: MISC_FEATURE
     46 <222> LOCATION: (6)..(6)
     47 <223> OTHER INFORMATION: X = val, ser, thr, cys, pro, ala, leu, ile, val or phe
     49 <220> FEATURE:
     50 <221> NAME/KEY: MISC_FEATURE
     51 <222> LOCATION: (7)..(7)
     52 <223> OTHER INFORMATION: X = met, his, or arg
     54 <220> FEATURE:
     55 <221> NAME/KEY: MISC_FEATURE
     56 <222> LOCATION: (8)..(8)
     57 <223> OTHER INFORMATION: X = unknown
     59 <220> FEATURE:
     60 <221> NAME/KEY: MISC_FEATURE
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Input Set : F:\EPI-104XC1.ST25.txt
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     61 <222> LOCATION: (9)..(9)
     62 <223> OTHER INFORMATION: X = met, his, trp, asp, or glu
     64 <400> SEQUENCE: 1
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     67 1               5
     70 <210> SEQ ID NO: 2
     71 <211> LENGTH: 9
     72 <212> TYPE: PRT
     73 <213> ORGANISM: Artificial Sequence
     75 <220> FEATURE:
     76 <223> OTHER INFORMATION: Synthetic sequence derived from erythropoietin
     79 <220> FEATURE:
     80 <221> NAME/KEY: MISC_FEATURE
     81 <223> OTHER INFORMATION: Synthetic sequence derived from erythropoietin
     83 <220> FEATURE:
     84 <221> NAME/KEY: MISC_FEATURE
     85 <222> LOCATION: (1)..(1)
     86 <223> OTHER INFORMATION: X = phe, met, or tyr
     88 <220> FEATURE:
     89 <221> NAME/KEY: MISC_FEATURE
     90 <222> LOCATION: (4)..(4)
     91 <223> OTHER INFORMATION: X = unknown
     93 <220> FEATURE:
     94 <221> NAME/KEY: MISC_FEATURE
     95 <222> LOCATION: (6)..(6)
     96 <223> OTHER INFORMATION: X = val, ser, or thr
     98 <220> FEATURE:
     99 <221> NAME/KEY: MISC_FEATURE
    100 <222> LOCATION: (7)..(7)
    101 <223> OTHER INFORMATION: X = met or his
    103 <220> FEATURE:
    104 <221> NAME/KEY: MISC_FEATURE
    105 <222> LOCATION: (8)..(8)
    106 <223> OTHER INFORMATION: X = unknown
    108 <220> FEATURE:
    109 <221> NAME/KEY: MISC_FEATURE
    110 <222> LOCATION: (9)..(9)
    111 <223> OTHER INFORMATION: X = met or his
    113 <400> SEQUENCE: 2
W--> 115 Xaa Met Thr Xaa Ile Xaa Xaa Xaa Xaa
    116 1               5
    119 <210> SEQ ID NO: 3
    120 <211> LENGTH: 193
    121 <212> TYPE: PRT
    122 <213> ORGANISM: Homo sapiens
    125 <220> FEATURE:
    126 <221> NAME/KEY: MISC_FEATURE
    127 <223> OTHER INFORMATION: Erythropoietin precursor, NCBI Entrez Protein Database
Accession
    128       number P01588
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RAW SEQUENCE LISTING DATE: 03/13/2007
PATENT APPLICATION: US/10/550,675 TIME: 08:37:45

Input Set : F:\EPI-104XC1.ST25.txt
Output Set: N:\CRF4\03132007\J550675.raw

130 <400> SEQUENCE: 3
132 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Leu Ser Leu
133 1 5 10 15
136 Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu
137 20 25 30
140 Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
141 35 40 45
144 Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
145 50 55 60
148 Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg
149 65 70 75 80
152 Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu
153 85 90 95
156 Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser
157 100 105 110
160 Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly
161 115 120 125
164 Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu
165 130 135 140
168 Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile
169 145 150 155 160
172 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu
173 165 170 175
176 Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp
177 180 185 190
180 Arg
184 <210> SEQ ID NO: 4
185 <211> LENGTH: 136
186 <212> TYPE: PRT
187 <213> ORGANISM: Oncorhynchus keta
190 <220> FEATURE:
191 <221> NAME/KEY: MISC_FEATURE
192 <223> OTHER INFORMATION: Calcitonin 1 precursor, NCBI Entrez Protein Database Accession
193 No. P01263
195 <400> SEQUENCE: 4
197 Met Val Met Met Lys Leu Ser Ala Leu Leu Ile Ala Tyr Phe Leu Val
198 1 5 10 15
201 Ile Cys Gln Met Tyr Ser Ser His Ala Ala Pro Ala Arg Thr Gly Leu
202 20 25 30
205 Glu Ser Met Thr Asp Gln Val Thr Leu Thr Asp Tyr Glu Ala Arg Arg
206 35 40 45
209 Leu Leu Asn Ala Ile Val Lys Glu Phe Val Gln Met Thr Ser Glu Glu
210 50 55 60
213 Leu Glu Gln Gln Ala Asn Glu Gly Asn Ser Leu Asp Arg Pro Met Ser
214 65 70 75 80
217 Lys Arg Cys Ser Asn Leu Ser Thr Cys Val Leu Gly Lys Leu Ser Gln
218 85 90 95
221 Glu Leu His Lys Leu Gln Thr Tyr Pro Arg Thr Asn Thr Gly Ser Gly
222 100 105 110

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Input Set : F:\EPI-104XC1.ST25.txt
Output Set: N:\CRF4\03132007\J550675.raw

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225 Thr Pro Gly Lys Lys Arg Ser Leu Pro Glu Ser Asn Arg Tyr Ala Ser
226         115                 120                 125
229 Tyr Gly Asp Ser Tyr Asp Gly Ile
230     130                 135
233 <210> SEQ ID NO: 5
234 <211> LENGTH: 217
235 <212> TYPE: PRT
236 <213> ORGANISM: Homo sapiens
239 <220> FEATURE:
240 <221> NAME/KEY: MISC_FEATURE
241 <223> OTHER INFORMATION: Somatotropin precursor, NCBI Entrez Protein Database
Accession
242       No. P01241
244 <400> SEQUENCE: 5
246 Met Ala Thr Gly Ser Arg Thr Ser Leu Leu Leu Ala Phe Gly Leu Leu
247 1               5                   10                  15
250 Cys Leu Pro Trp Leu Gln Glu Gly Ser Ala Phe Pro Thr Ile Pro Leu
251             20                  25                  30
254 Ser Arg Leu Phe Asp Asn Ala Met Leu Arg Ala His Arg Leu His Gln
255         35                  40                  45
258 Leu Ala Phe Asp Thr Tyr Gln Glu Phe Glu Glu Ala Tyr Ile Pro Lys
259     50                  55                  60
262 Glu Gln Lys Tyr Ser Phe Leu Gln Asn Pro Gln Thr Ser Leu Cys Phe
263 65                  70                  75                  80
266 Ser Glu Ser Ile Pro Thr Pro Ser Asn Arg Glu Glu Thr Gln Gln Lys
267                 85                  90                  95
270 Ser Asn Leu Glu Leu Leu Arg Ile Ser Leu Leu Leu Ile Gln Ser Trp
271             100                 105                 110
274 Leu Glu Pro Val Gln Phe Leu Arg Ser Val Phe Ala Asn Ser Leu Val
275         115                 120                 125
278 Tyr Gly Ala Ser Asp Ser Asn Val Tyr Asp Leu Leu Lys Asp Leu Glu
279     130                 135                 140
282 Glu Gly Ile Gln Thr Leu Met Gly Arg Leu Glu Asp Gly Ser Pro Arg
283 145                 150                 155                 160
286 Thr Gly Gln Ile Phe Lys Gln Thr Tyr Ser Lys Phe Asp Thr Asn Ser
287                 165                 170                 175
290 His Asn Asp Asp Ala Leu Leu Lys Asn Tyr Gly Leu Leu Tyr Cys Phe
291             180                 185                 190
294 Arg Lys Asp Met Asp Lys Val Glu Thr Phe Leu Arg Ile Val Gln Cys
295         195                 200                 205
298 Arg Ser Val Glu Gly Ser Cys Gly Phe
299     210                 215
302 <210> SEQ ID NO: 6
303 <211> LENGTH: 110
304 <212> TYPE: PRT
305 <213> ORGANISM: Homo sapiens
308 <220> FEATURE:
309 <221> NAME/KEY: MISC_FEATURE
310 <223> OTHER INFORMATION: Insulin precursor, NCBI Entrez Protein Database Accession
No.
311       P01308
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RAW SEQUENCE LISTING DATE: 03/13/2007
PATENT APPLICATION: US/10/550,675 TIME: 08:37:45

Input Set : F:\EPI-104XC1.ST25.txt
Output Set: N:\CRF4\03132007\J550675.raw

313 <400> SEQUENCE: 6
315 Met Ala Leu Trp Met Arg Leu Leu Pro Leu Leu Ala Leu Leu Ala Leu
316 1 5 10 15
319 Trp Gly Pro Asp Pro Ala Ala Ala Phe Val Asn Gln His Leu Cys Gly
320 20 25 30
323 Ser His Leu Val Glu Ala Leu Tyr Leu Val Cys Gly Glu Arg Gly Phe
324 35 40 45
327 Phe Tyr Thr Pro Lys Thr Arg Arg Glu Ala Glu Asp Leu Gln Val Gly
328 50 55 60
331 Gln Val Glu Leu Gly Gly Gly Pro Gly Ala Gly Ser Leu Gln Pro Leu
332 65 70 75 80
335 Ala Leu Glu Gly Ser Leu Gln Lys Arg Gly Ile Val Glu Gln Cys Cys
336 85 90 95
339 Thr Ser Ile Cys Ser Leu Tyr Gln Leu Glu Asn Tyr Cys Asn
340 100 105 110
343 <210> SEQ ID NO: 7
344 <211> LENGTH: 110
345 <212> TYPE: PRT
346 <213> ORGANISM: Homo sapiens
349 <220> FEATURE:
350 <221> NAME/KEY: MISC_FEATURE
351 <223> OTHER INFORMATION: Insulin Precursor, NCBI Entrez Protein Database Accession No.
352 P01308
354 <400> SEQUENCE: 7
356 Met Ala Leu Trp Met Arg Leu Leu Pro Leu Leu Ala Leu Leu Ala Leu
357 1 5 10 15
360 Trp Gly Pro Asp Pro Ala Ala Ala Phe Val Asn Gln His Leu Cys Gly
361 20 25 30
364 Ser His Leu Val Glu Ala Leu Tyr Leu Val Cys Gly Glu Arg Gly Phe
365 35 40 45
368 Phe Tyr Thr Pro Lys Thr Arg Arg Glu Ala Glu Asp Leu Gln Val Gly
369 50 55 60
372 Gln Val Glu Leu Gly Gly Gly Pro Gly Ala Gly Ser Leu Gln Pro Leu
373 65 70 75 80
376 Ala Leu Glu Gly Ser Leu Gln Lys Arg Gly Ile Val Glu Gln Cys Cys
377 85 90 95
380 Thr Ser Ile Cys Ser Leu Tyr Gln Leu Glu Asn Tyr Cys Asn
381 100 105 110
384 <210> SEQ ID NO: 8
385 <211> LENGTH: 187
386 <212> TYPE: PRT
387 <213> ORGANISM: Homo sapiens
390 <220> FEATURE:
391 <221> NAME/KEY: MISC_FEATURE
392 <223> OTHER INFORMATION: Interferon-beta, NCBI Entrez Protein Database Accession No.
393 AAC41702
395 <400> SEQUENCE: 8
397 Met Thr Asn Lys Cys Leu Leu Gln Ile Ala Leu Leu Leu Cys Phe Ser
398 1 5 10 15

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 03/13/2007
PATENT APPLICATION: **US/10/550,675** TIME: 08:37:46

Input Set : **F:\EPI-104XC1.ST25.txt**
Output Set: **N:\CRF4\03132007\J550675.raw**

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 1,6,7,8,9
Seq#:2; Xaa Pos. 1,4,6,7,8,9

VERIFICATION SUMMARY DATE: 03/13/2007
PATENT APPLICATION: **US/10/550,675** TIME: 08:37:46

Input Set : **F:\EPI-104XC1.ST25.txt**
Output Set: **N:\CRF4\03132007\J550675.raw**

L:16 M:270 C: Current Application Number differs, Replaced Current Application Number
L:17 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:66 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:0
L:115 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0